

REMARKS

This Amendment is filed in response to the Office Action dated March 7, 2005. Applicant first notes with appreciation the Examiner's continued thorough examination of the application as evidenced by the Office Action. In response to the Office Action, Applicant has amended Claim 28 to correct a typographical error. Applicant, however, has not made any other amendments to the claims. Applicant respectfully submits that the claims as currently presented are patentable over the cited references. Applicant therefore respectfully requests reconsideration and allowance of the application in light of the following remarks.

I. Claim 28 is Now in Proper Form

In paragraph 3, the Office Action objects to Claim 28 because it depends from itself. Applicant has amended Claim 28 to properly depend from Claim 27. Applicant respectfully submits that Claim 28 as amended is now in proper form.

II. Claims 1-39 Are Patentable

A. Rejections

The Office Action rejects all of the claims as being obvious in light U.S. Patent No. 5,812,390 to Merkin in combination with U.S. Patent No. 5,418,718 to Lim et al. and an article by Wei et al. entitled "ASCII Printable Characters-Based Chinese Character Encoding for Internet Messages." Specifically, the Office Action alleges that the '390 Merkin patent discloses a string data area stored in memory that includes a plurality of data strings to be displayed by a display management module. The Office Action concedes that the '390 Merkin patent does not disclose that the data strings are composed of double-byte characters or that the double-byte characters are identified by use of escape codes. To meet this deficiency in the '390 Merkin patent, the Office Action cites the '718 Lim patent, which the Office Action alleges discloses strings having both single and double byte characters. Further, the Office Action alleges that the Wei article discloses use of escape codes for double-byte characters. The Office Action alleges

that these references are combinable and that when combined disclose all of the elements of the claims. Applicant respectfully disagrees.

B. Background

As background, the present invention provides data structures for storing data strings used by a display management module to display information on a display terminal. The data strings are stored in the data structure and are associated with unique tokens located in the computer program. The data strings are accessed by the display management module based on the tokens and used for display.

In the claimed invention, the data structure has a string data area that includes data strings representing language data. Each character of each data string is a character selected from the group consisting of standard ASCII, extended ASCII, and double byte characters (DBCS). The characters in a data string that are standard ASCII (less than code 80 hexadecimal) or extended ASCII (codes greater than or equal to 80 hexadecimal) with codes less than a predetermined escape code are stored by their ASCII representations in the string data area. Extended ASCII characters having characters codes greater than or equal to the escape code are stored as two-byte codes with the ASCII character code preceded by the escape code. Further, the double byte characters are encoded sequentially as two-byte codes whose starting value is found by taking the value one greater than the escape code and making the next byte zero. For example, if the escape code is selected to be 0E0 hexadecimal then the first DBCS character code would be 0E100, and the 16 bit values may therefore be incremented sequentially from 0E101 to 0FFFF hexadecimal.

In order to differentiate between codes used for DBCS characters and those used for extended ASCII, the extended ASCII characters must be preceded by the escape code. For example, when processed byte by byte, the code 0E5h encountered by itself in the string data would indicate the start of a 16-bit DBCS character code, such that 0E5 and the following byte would represent the code. In order to represent the actual extended ASCII character of 0E5 hexadecimal, it would be preceded by the escape code, as in 0E0E5. This encoding scheme therefore allows all 256 ASCII codes, as well as a range of 16 bit DBCS character codes to

coexist within and be extracted from the string data. As such, the data structure may be designed to contain data strings for not only languages that require textual representations in ASCII and extended ASCII characters, but also for languages, such as Kanji, that require graphical characters that are displayed using DBCS characters.

Specifically, because there are 256 standard and extended ASCII characters and 65,536 possible DBCS characters, it is typically not feasible to encode all of the possible characters in the data structure. For this reason, the data structure is formatted such that all of the standard ASCII characters and some of the extended ASCII characters are encoded into one-byte codes by their associated ASCII code, and those extended ASCII characters whose codes are used in the range reserved for DBCS characters are encoded into a two byte codes, whereby the extended ASCII code is preceded by the escape code. Therefore, the encoding scheme distinguishes the extended ASCII characters in the data strings from the DBCS characters, such that the display management module can differentiate between normal ASCII character codes and DBCS characters.

An important aspect of the claimed invention is that the user may select an appropriate escape code based on the different types of characters for a particular font. The escape code may be selected such that some of the extended ASCII characters are also preceded by an escape code. By lowering or raising the value of the escape code, the number of unique DBCS characters that may be encoded in the language strings can be increased or decreased.

C. The Claims Are Patentable

As detailed below, Applicant respectfully submits that the cited references nowhere teach or suggest a data structure “wherein characters in a data string that are standard ASCII and extended ASCII characters having ASCII codes less than a selected escape code are stored by their ASCII representations in said string data area, while extended ASCII characters and standard ASCII characters, if any, having ASCII codes at least as great as the selected escape code and ASCII characters that identify double byte characters are encoded and the encoded values are stored in said string data area” as is recited in independent Claim 1, 14, and 27. The Wei article no where discloses extended ASCII characters, much less storage of such characters.

The Wei article mentions only standard ASCII characters (less than code 80 hexadecimal) and DBCS characters, but not extended ASCII (codes greater than or equal to 80 hexadecimal). Furthermore, the Wei article no where teaches or suggests that the escape code may be chosen such that one or more of the extended ASCII characters can be preceded by an escape code, as is recited in the claims.

While not completely clear, at best the Wei article discloses use of an escape code to identify double-byte codes. However, what the Wei article fails to teach or suggest is selection of an escape code, such as that standard ASCII and extended ASCII characters having ASCII codes less than a selected escape code are stored by their ASCII representations, while extended ASCII codes greater than the escape code are encoded in the memory. This aspect of the claimed invention is no where found in the Wei article. As mentioned above, by allowing the user to select an appropriate escape code, the present invention allows the user to store more or less unique DBCS characters (i.e., by lowering or raising the value of the escape code, the number of unique DBCS characters that may be encoded in the language strings can be increased or decreased). As the prior art fails to teach or suggest this aspect of the claimed invention, Applicant respectfully submits that independent Claims 1, 14, and 27, as well as the claims that depend therefrom, are patentable over the cited references.

Applicant notes that several of the dependent claims also recite patentable features not taught or suggested by the cited references. Applicant has not included herein arguments to each of these dependent claims due to the above-discussed differences between the cited art and the independent claims. However, Applicant reserves the right to do so in future correspondence.

CONCLUSION

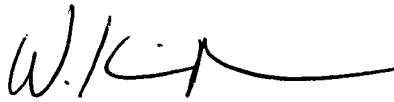
In light of the amended claim and the remarks above, Applicant respectfully submits that the case is now in condition for allowance. It is therefore requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicant's undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper.

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However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

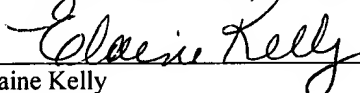


W. Kevin Ransom
Registration No. 45,031

Customer No. 00826
ALSTON & BIRD LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Charlotte Office (704) 444-1000
Fax Charlotte Office (704) 444-1111

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 7, 2005.


Elaine Kelly

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